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September 15, 2026

Bureau of Land Management
Alaska State Office
Lands, Realty and Pipeline Branch

Re: PWSRCAC Scoping Comments – Proposed 30-Year Renewal of the Trans Alaska Pipeline System Federal Right-of-Way (DOI-BLM-AK-9410-2026-0009-EA)

Dear BLM TAPS Right-of-Way Renewal Project Team:

The Prince William Sound Regional Citizens' Advisory Council (PWSRCAC or Council) is a federally mandated, independent nonprofit corporation whose mission is to promote the environmentally safe operation of the Valdez Marine Terminal (VMT) and associated tankers. Our work is guided by the Oil Pollution Act of 1990 (33 U.S.C. 2701-2761, OPA 90), and our contract with Alyeska Pipeline Service Company (Alyeska). PWSRCAC's 19 member organizations are communities in the region affected by the 1989 Exxon Valdez oil spill, as well as commercial fishing, aquaculture, Alaska Native, recreation, tourism, and environmental groups. The Bureau of Land Management (BLM) is designated in OPA 90 as an ex-officio, nonvoting member of PWSRCAC.

On behalf of the entire membership of the PWSRCAC from communities across the Exxon Valdez oil spill region, please accept the enclosed comments regarding the BLM's review of the proposed 30-year renewal of the federal right-of-way (ROW) for the Trans Alaska Pipeline System (TAPS).

The Council's statutory authorization is limited to VMT and associated tankers. As such, our comments are focused on the terminal, which fills a key role in the system that moves American crude oil from the Arctic to refineries in Alaska and beyond. PWSRCAC's interest is ensuring that TAPS is in the best position possible to operate safely into the future, with a focus on helping to protect Alaska, its residents, economies, and the environment from another catastrophic accident and devastating oil spill.

PWSRCAC appreciates the opportunity to participate in this important process. The Council has more than three decades of experience providing independent citizen oversight of crude oil transportation and terminal operations in Prince William Sound, including the VMT. Through that work, PWSRCAC has developed substantial technical and institutional knowledge regarding oil spill prevention and response, terminal operations, infrastructure integrity, environmental protection, and the risks associated with transporting and storing crude oil.

The proposed renewal represents a significant long-term decision. A 30-year authorization requires consideration not only of whether TAPS and the VMT can safely and responsibly operate under current conditions, but whether the assumptions, infrastructure, prevention measures, response capabilities, environmental conditions, regulatory oversight, staffing, maintenance programs, and mitigation measures relied upon today will remain adequate throughout the entire authorization period.

The enclosed comments identify areas PWSRCAC believes warrant careful consideration as BLM develops its environmental analysis. Our comments are intended to assist BLM in developing a thorough, transparent, technically sound, and forward-looking review of the proposed renewal. Where information is incomplete or unavailable, PWSRCAC encourages BLM to obtain sufficient objective and independently reviewable information to support its conclusions.

At the time these comments were prepared, PWSRCAC did not have a copy of Alyeska's federal ROW renewal application or all supporting materials submitted with the application. While we appreciate that the scoping period was extended beyond its initial 15-day period to September 17, the application and supporting materials were only provided to the public on September 15, which did not provide enough time for us to review the materials for consideration in our comments. As a result, some of the issues, concerns, or measures identified in the Council's comments may already be addressed, in whole or in part, within Alyeska's application or supporting documentation. To the extent that occurs, PWSRCAC appreciates BLM's consideration of our comments in light of the information already provided by the applicant. The Council nevertheless believes these issues are important to the environmental review and should be clearly addressed in BLM's analysis and administrative record.

PWSRCAC's comments also draw upon a substantial body of technical studies, reports, prior Council reviews, regulatory records, and other supporting information developed or reviewed over many years. Rather than attach this extensive supporting material to the scoping submission and potentially obscure the principal issues the Council is seeking to raise at this stage, we have generally identified or referenced relevant information without including copies of the underlying documents. This should not be interpreted as a lack of supporting information for the issues raised. PWSRCAC would be pleased to provide BLM with any referenced reports, studies, technical analyses, historical records, or other supporting documentation that would assist in its review.

Given the scope and duration of the proposed authorization, PWSRCAC also encourages BLM to provide meaningful opportunities for continued public review and participation as the analysis progresses and additional technical information becomes available. Of utmost importance is the Council's request that BLM commit to a 45-day, or minimum 30-day, public comment period on the draft Environmental Assessment prior to any decision being made by BLM on Alyeska's requested renewal.

PWSRCAC appreciates BLM's consideration of these comments and looks forward to continued participation in the TAPS ROW renewal process. Please feel free to contact us if additional

information, supporting documentation, or clarification regarding the Council's comments would be helpful.

Sincerely,

A handwritten signature in blue ink that reads "Donna Schantz". The signature is fluid and cursive, with the first name being more prominent.

Donna Schantz
Executive Director

A handwritten signature in blue ink that reads "Robert Archibald". The signature is cursive and somewhat stylized, with the last name being more prominent.

Robert Archibald
President of the Board

Cc: Klint VanWingerden, Alyeska Pipeline Service Company
Suzanne Cunningham, Alyeska Pipeline Service Company

Enclosure: PWSRCAC Scoping Comments – TAPS Federal Right-of-Way Renewal



Scoping Comments on Trans Alaska Pipeline System Right-of-Way Renewal

Submitted to:
Bureau of Land Management and
Alyeska Pipeline Service Company

Submitted by:
Prince William Sound Regional Citizens' Advisory Council

September 15, 2026

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Acronym List

ADEC	Alaska Department of Environmental Conservation
AFFF	Aqueous Film-Forming Foam
AMPP	Association for Materials Protection and Performance
APDES	Alaska Pollutant Discharge Elimination System
APSC	Alyeska Pipeline Service Company
BLM	Bureau of Land Management
BWTF	Ballast Water Treatment Facility
C-Plan	Oil Discharge Prevention and Contingency Plan
CBA	Catalytically Blown Asphalt
CP	Cathodic Protection
CRO	Control Room Operator
DOI	Department of Interior
DR&R	Dismantlement, Removal, and Restoration
EA	Environmental Assessment
ELL	Electrical Leak Location
EPA	Environmental Protection Agency
ETF	East Tank Farm
FEIS	Final Environmental Impact Statement
FLIR	Forward-Looking Infrared
GAO	Government Accountability Office
JPO	Joint Pipeline Office
NACE	National Association of Corrosion Engineers
NEPA	National Environmental Policy Act
NESHAP-OLD	National Emissions Standards for Hazardous Air Pollutants for Organic Liquids Distribution
NOV	Notice of Violation
OCC	Operations Control Center
OPA 90	Oil Pollution Act of 1990
PFAS	Per- and Polyfluoroalkyl Substances
PHMSA	Pipeline and Hazardous Materials Safety Administration
PV	Power Vapor
PVV	Pressure/Vacuum Vent
PWSRCAC	Prince William Sound Regional Citizens' Advisory Council
RCM	Reliability-Centered Maintenance
ROD	Record of Decision
ROW	Right-of-Way
SCADA	Supervisory Control and Data Acquisition
SPCC	Spill Prevention, Control, and Countermeasure
TAPAA	Trans-Alaska Pipeline Authorization Act
TAPS	Trans Alaska Pipeline System
TSA	Transportation Security Administration
VMT	Valdez Marine Terminal
VOC	Volatile Organic Compounds

Introduction

The Prince William Sound Regional Citizens' Advisory Council (PWSRCAC) is a federally mandated, independent nonprofit corporation whose mission is to promote the environmentally safe operation of the Valdez Marine Terminal (VMT) and associated tankers. Our work is guided by the Oil Pollution Act of 1990 (OPA 90), and our contract with Alyeska Pipeline Service Company (APSC). PWSRCAC's 19 member organizations are communities in the region affected by the 1989 Exxon Valdez oil spill, as well as commercial fishing, aquaculture, Alaska Native, environmental, recreation, and tourism groups.

As part of fulfilling its responsibilities under federal statute, PWSRCAC strives to work in partnership with industry, as well as federal and state regulators, on shared goals of ensuring the safe transportation of oil and preventing another devastating accident like the Exxon Valdez oil spill. The Bureau of Land Management (BLM) is named in OPA 90 as one of several Federal and State of Alaska ex officio or nonvoting members of PWSRCAC. It is vitally important to ensure there is an appropriate level of public input to provide comprehensive consideration of the potential impacts of renewing the Trans Alaska Pipeline System (TAPS) Right-of-Way (ROW) for another 30 years.

PWSRCAC's interest is specific to the VMT, which fills a key role in the system that moves American crude oil from the Arctic to refineries in Alaska and beyond. The VMT is wholly included in our organization's Congressional mandate and also subject to BLM's legal authority under the Trans-Alaska Pipeline Authorization Act (TAPAA), as explained in the 2002 Final Environmental Impact Statement (FEIS) (Volume 1, Executive Summary): "Even though some portions of the pipeline system - including Pump Station (PS) 1, 8, and 9 and the Valdez Marine Terminal - are on land owned by the TAPS Owners, the TAPAA and Federal Grant provide that all TAPS operations (even those on state and private lands as well as federal lands) are subject to BLM systemwide oversight and decisions. The Federal Grant specifies many of the federal responsibilities."

A catastrophic accident anywhere in the TAPS, including the VMT and associated tankers, would not only cause serious, adverse impacts and harm to Alaska's communities, economies, and environment, but also to the energy needs of the United States. If a catastrophic accident were to occur, it would have the potential to shut down oil production thereby negatively impacting Alaska's economy and national energy needs, as well as exposing other important resource development prospects to serious but preventable risks. The best way to ensure continued national and state-wide benefits from Alaska's resources is to ensure these resources are moved safely.

As described on the BLM website, the proposed project, "encompasses the continuation of all routine operations required to transport crude oil year-round, as well as the ongoing

execution of maintenance, repair, integrity management protocols, environmental protections, and crude oil spill preparedness response.” PWSRCAC’s comments identify specific changed circumstances since the 2002–2003 renewal that require BLM’s verification and consideration due to their potential associated environmental impacts. We focus on the importance of assessing the viability and reliability over time of measures in place to prevent pollution releases and any associated ecological, health, socioeconomic, and in some cases cultural impacts.

Our comments provide information that is both relevant to the current TAPS ROW review and new since the last ROW review. Comments focus on changes in VMT operations, regulatory oversight, and the VMT infrastructure itself. In considering changes, it is critical that BLM explicitly address not only changes since 2002–2003, but also changes anticipated through the end of another 30-year renewal where applicable. At the end of the next 30-year ROW renewal cycle in January 2064, the VMT will have been operating for 86 years since oil first arrived from the North Slope in July 1977.¹ This will require consistent and rigorous maintenance, integrity management, and safety procedures - as well as comprehensive regulatory oversight of all these systems - to be sustained for the 30-year duration of the ROW approval.

Note that we do not provide Global Positioning System coordinates as suggested in the “Substantive Comment Guidance” because our comments all relate to the VMT.

Comment on Importance of Public Input and Transparency in National Environmental Policy Act (NEPA) Review

The TAPS is a high-profile, complex project of well-recognized importance to Alaska’s public. As such, it is critical that the ROW review provide a meaningful, informed, and transparent opportunity for public participation.

BLM opened the scoping process on August 26, 2026, with an initial 15-day public scoping period (extended to 22 days) based on a single paragraph describing the project. While we understand that the scoping process is not required in the 2026 Department of Interior (DOI) NEPA Handbook, given the complexity, public interest, and expedited initiation of the ROW renewal process, it is critical that BLM have a thorough understanding of the changes that have occurred since the last ROW review in 2002–2003, when implementing its requirements under NEPA and the TAPAA.

Given the technical complexity of TAPS, the VMT, and the duration of the proposed authorization, meaningful participation requires more than an opportunity to submit comments. Interested parties must have timely access to sufficient technical information,

¹ https://alyeska-pipe.com/pipeline_facts/taps-construction/

assumptions, studies, data, and analyses to understand the proposed action, identify relevant issues, and meaningfully evaluate the basis for BLM's eventual decision.

The short scoping period places additional importance on transparency later in the environmental review. We describe the necessary elements of this below.

BLM should share a comprehensive technical overview of the project with the public. The public scoping period was opened with only a single paragraph description of an 800-mile pipeline and associated facilities. The public should have been provided adequate information and time to reconsider the facility and how APSC proposes to operate it safely through 2064, as environmental conditions change, throughput fluctuates, and the infrastructure ages.

BLM should clearly explain how substantive scoping comments will be considered in determining which issues receive detailed analysis, which issues are considered but not analyzed in detail, and the rationale for those determinations.

BLM should provide a public review and comment opportunity on the draft Environmental Assessment (EA). BLM should exercise its discretion to ensure a 45-day public comment period, or at least a minimum 30-day review period, with reasonable advance notice to interested parties on the timing of that review. This is of heightened importance given that the project proposal documents were not shared during the scoping period and the EA will be the only opportunity the public has to understand how BLM is considering the ecological, social, economic, and cultural impacts of the continued operation of TAPS until it nears 90 years of operation.

This project clearly meets the threshold described in the DOI NEPA Handbook for a public review of the draft EA given that it is both of high public interest in Alaska and highly complex. Public interest can be ascertained from BLM's 2022 FEIS which explains that during the 80-day scoping period in 2001, more than 1,700 people participated in the process in some way. Furthermore, the 2002 FEIS (Volume 1) states that, "More than 580 people and organizations participated in the public comment process," and that this included more than 100 recognized organizations, including Alaska Native organizations. These numbers indicate a high degree of public interest. BLM will benefit from the public's input on the many complex aspects of sustaining TAPS operations.

BLM should make publicly available all technical information necessary to evaluate assumptions concerning spill risk, infrastructure integrity, operating conditions, maintenance and integrity management, staffing and human factors, emergency response capability, projected throughput, environmental conditions, and proposed mitigation. These should include, to the extent appropriate and consistent with applicable information-security requirements, relevant applicant studies, modeling assumptions and outputs, technical appendices, inspection and integrity information relied upon in the EA, and documentation

supporting conclusions that particular risks or impacts are adequately addressed through detailed and specific mitigation measures. Where information cannot be publicly disclosed, BLM should identify the nature of the withheld information and explain how it independently evaluated that information in reaching its conclusions.

BLM must clearly distinguish general involvement from government-to-government Tribal consultation and other applicable consultation responsibilities. DOI guidance recognizes that public scoping and Tribal consultation are not the same process, and that consultation responsibilities may exist independently of public participation. BLM should therefore document how consultation is being conducted with affected federally recognized Tribes and, where applicable, Alaska Native Corporations, and explain how information regarding subsistence uses, cultural resources, traditional knowledge where appropriately provided, and other concerns identified through consultation are incorporated into the environmental review.

PWSRCAC also recognizes that APSC is preparing the proposed EA as the applicant for the ROW renewal. DOI procedures permit applicant-prepared environmental assessments, but BLM remains accountable for the adequacy, scope, content, and scientific integrity of the environmental review. Accordingly, BLM should explain how it will independently evaluate and verify APSC-supplied data, assumptions, models, risk analyses, alternatives, technical conclusions, and mitigation commitments. The environmental record should make clear which conclusions originate from the applicant, what independent technical review BLM or other agencies performed, and the basis for BLM's acceptance or modification of material applicant assumptions.

This independent-review function is particularly important where the EA relies on assumptions concerning the future performance of aging infrastructure, inspection and maintenance programs, spill-prevention systems, emergency response capability, staffing, regulatory oversight, or mitigation measures over the proposed 30-year authorization period. If BLM relies upon future mitigation, inspection, monitoring, maintenance, or other commitments to support its environmental conclusions, the EA should identify who is responsible for implementing each commitment, which agency will independently verify performance, how frequently compliance will be evaluated, what information will be publicly reported, and what corrective or enforcement mechanisms are available if commitments are not met.

The ROW renewal request comes 8 years prior to the expiration of the current lease term in 2034. We understand that this serves APSC's member company interests in ensuring certainty of operations, but it asks the public to rely on conditions and information available in 2026 to permit continued operation of an almost 50-year-old system for nearly 40 years beyond today. This request is being made in the context not only of aging infrastructure and recent (and ongoing) safety and environmental concerns as outlined in these comments, but also in the context of changing underlying assumptions about the potential natural hazard impacts that may pose heightened concerns in the future compared to the days when the system was

designed. It is critical that BLM be both thorough and forward-looking when assessing the effectiveness of mitigation measures and establishing lease stipulations for the next ROW renewal term.

Ultimately, the adequacy of public participation should be evaluated in relation to the magnitude and duration of the federal decision before BLM. A 30-year ROW authorization will extend well beyond current personnel, operating conditions, infrastructure conditions, production forecasts, and regulatory circumstances. PWSRCAC therefore recommends that BLM maintain a transparent administrative record demonstrating the information relied upon, significant assumptions made, issues raised during scoping, technical disagreements or uncertainties identified, independent verification performed, mitigation relied upon, and the rationale supporting the agency's final conclusions.

Requested BLM Actions

- Share comprehensive project details with the public in advance of a public review of a draft EA.
- Explain how substantive scoping comments will be considered in determining which issues receive detailed analysis, which issues are considered but not analyzed in detail, and the rationale for those determinations.
- Identify the technical information, underlying data, studies, models, and assumptions that will be made publicly available during preparation of the EA.
- Explain how APSC-provided information, analyses, models, and mitigation commitments will be independently evaluated and verified by BLM or other qualified agencies or technical reviewers.
- Describe how BLM will document the disposition of substantive scoping issues, including issues selected for detailed analysis and issues considered but not analyzed in detail.
- Document government-to-government Tribal consultation and applicable Alaska Native Corporation consultation separately from public involvement, while explaining how relevant subsistence, cultural, historic, and traditional-use information is incorporated into the environmental analysis.
- Provide meaningful additional public review opportunities if significant new technical information, analyses, mitigation measures, or changes to the proposed action emerge after scoping, and confirm and include a public comment opportunity on the EA of at least 30 days (and with the timing announced in advance) before a final decision.
- Identify how mitigation, inspection, monitoring, maintenance, or other commitments relied upon in the EA will be implemented, independently verified, reported, and enforced throughout the ROW term.
- Maintain a transparent administrative record sufficient for the public and decision-makers to understand the factual basis, assumptions, uncertainties, technical disagreements, mitigation, and independent review supporting the 30-year ROW decision.

Supporting Information

Bureau of Land Management (BLM), 2026, "BLM Prepares to Permit Next Chapter of Trans Alaska Pipeline System, Safeguarding American Energy Security," Aug. 26.

<https://www.blm.gov/press-release/blm-prepares-permit-next-chapter-trans-alaska-pipeline-system-safeguarding-american>

Bureau of Land Management (BLM), 2025, "Land Use Planning Handbook H-1601-1 (Jan. 16, 2025)," January. https://www.blm.gov/sites/default/files/docs/2025-01/H-1601-1_Rel_1-1836.pdf

Bureau of Land Management (BLM), 2002, "Final Environmental Impact Statement (FEIS): Renewal of the Federal Grant for the Trans-Alaska Pipeline System Right-of-Way. BLM/AK/PT-03/005-2880-990. <https://www.arlis.org/docs/vol1/BLM/2002/51557502/index.html>

Bureau of Land Management (BLM), no date, "Public Involvement." <https://www.blm.gov/programs/planning-and-nepa/public-participation>

U.S. Department of the Interior (DOI), 2026, "516 DM 1, Handbook of National Environmental Policy Act Implementing Procedures (Feb. 2026)," February. <https://www.doi.gov/media/document/doi-handbook-nepa-procedures>

Comment on Changes in Regulatory Oversight

PWSRCAC recommends that BLM re-establish the Joint Pipeline Office's (JPO) comprehensive monitoring program or establish an adequate replacement to ensure there is a meaningful regulatory oversight program in place to evaluate APSC's performance and ensure that aging infrastructure at the VMT is adequately inspected and maintained or replaced as may be warranted.

The regulatory structure relied upon during the prior renewal has changed significantly since the 2002 FEIS cited the JPO as a key mitigation measure (Volume 3, Section 4.1.1). According to the 2002 FEIS, JPO continuously monitored all aspects of TAPS operations and engaged with TAPS representatives on deficiencies and noncompliance areas which are tracked in a database such that any recurring problems can be highlighted that might be indicative of systematic design or programmatic weaknesses. At the time of the last TAPS ROW renewal, JPO's comprehensive oversight included monitoring TAPS activities to identify situations requiring corrective action, and direct compliance or remediation actions, as necessary, to protect public safety and health, the environment, and pipeline integrity.

Also at the time of the last TAPS ROW renewal, JPO oversight had previously been scrutinized twice by the United States Government Accountability Office (GAO) (then-named the General

Accounting Office) following the Exxon Valdez oil spill. In 1991, GAO highlighted multiple gaps in oversight procedures and the ability of the nascent JPO to ensure that APSC's operating and maintenance procedures were meeting the pipeline's special engineering design and operating requirements, and whether APSC could adequately and promptly respond to a large-scale oil spill. The GAO concluded that the company was policing itself. A few years later, a 1995 GAO report indicated improvements were being made. These past reports are mentioned because they reflect the importance given to the role and functioning of the JPO prior to the last TAPS ROW renewal. As explained in the 1995 report, "The Office's success depends on having adequate staffing and funds over the long term. The Office's funding is provided largely by APSC, which will be under continuing pressure to reduce its costs as the flow of oil through the pipeline decreases. In addition, the Office will also be under pressure to reduce its government staffing levels. Either or both situations could adversely affect the Office's ability to maintain adequate oversight."

Unfortunately, today the situation seems to have reverted back to that which existed when the critical 1991 GAO report was conducted, not heeding the warning in the 1995 report quoted above. In 2025, the GAO reported that JPO joint activities and public reporting were scaled back beginning in approximately 2005, that BLM later shifted portions of its role away from an engineering review toward lands and permitting functions, and that uncertainty existed even then regarding agency roles and potential oversight gaps, particularly at the VMT. This is problematic context given that same organization's warnings prior to the last TAPS ROW renewal of the importance of the JPO to sustain effective TAPS operations over time.

Additionally, a BLM report titled "Branch of Pipeline Monitoring Roles Responsibilities Matrix," dated July 31[sic], 2018, stated that the JPO no longer existed as an organizational entity, and that the Pipeline and Hazardous Materials Safety Administration (PHMSA) had overall regulatory responsibility for TAPS.

The JPO agencies are no longer co-located, resulting in an ultimate lack of synergy, a loss of information sharing, and siloed information between agencies. The passing of agency jurisdiction with oversight responsibilities over the VMT to PHMSA has created a jurisdictional compliance gap. PHMSA only has jurisdiction over crude oil storage tanks 1 and 3 and the power vapor control room management (§195.446(a)) at the VMT and has no jurisdiction over the other 11 currently active crude oil storage tanks, power vapor control room operations and practices to ensure safe operations, and the rest of the infrastructure that makes up the VMT.

The safety systems that JPO put in place as outlined in the 1995 GAO report no longer exist today. In a 2025 report, GAO concluded that there is a lack of clarity on JPO's intended outcomes, noting, "...JPO no longer works toward many of the outcomes it outlined more than 15 years ago. Redefining and documenting the intended outcomes of JPO's oversight activities, including those aiming to inform the public of its oversight efforts, would enable JPO agencies to work toward shared goals and ensure accountability."

Congress and others concluded in the aftermath of the 1989 Exxon Valdez oil spill that complacency had set in within industry and government and contributed to the events that led to that devastating disaster. Lessons learned from smaller incidents must also be understood and inform changes in procedures, training, or systems as well. In 2012, two employees were injured when snow on a storage tank suddenly shifted. It took back and forth between BLM and APSC to ensure that procedures had been updated adequately based on the lessons learned. This type of oversight is not implemented today, and PWSRCAC remains concerned about whether snow removal procedures and personnel are adequate to prevent injuries or something like the 2022 tank vent damage described later in these comments.

PWSRCAC has sought to carry out its mission to prevent the recurrence of such complacency. PWSRCAC believes there are major deficiencies involving risks at the VMT due to the lack of adequate regulatory oversight of safety systems that are critical to the safe operation of the terminal for the next 30 years.

Requested BLM Actions

- Evaluate whether the regulatory oversight structure assumed in the prior FEIS still exists in equivalent form and whether current staffing, technical expertise, jurisdictional coverage, coordination, and accountability are sufficient for the ROW renewal period.
- Address recommendations from the 2025 GAO report: (Recommendation 1) The Director of BLM should, in collaboration with other JPO agencies, redefine and document the intended outcomes of JPO's safety oversight activities, such as outcomes aiming to inform the public of JPO's oversight efforts; and (Recommendation 2) The Director of BLM should, in collaboration with other JPO agencies, clarify and document JPO agencies' roles and responsibilities, including identifying any potential gaps in TAPS safety oversight.
- Re-establish JPO's comprehensive monitoring program or establish an adequate replacement to ensure there is a meaningful regulatory oversight program in place to evaluate APSC's performance and ensure that aging and obsolete infrastructure at the VMT is adequately inspected and maintained or replaced as may be warranted.
- BLM should request APSC's lessons learned from prior incidents, including snow-related incidents in 2012 and 2022, spills, operational upsets, and near misses and review the adequacy of APSC's Management of Change process, as well as their Quality Assurance/Quality Control programs.

Supporting Information

Bureau of Land Management (BLM), 2018, "Branch of Pipeline Monitoring Roles Responsibilities Matrix," July 31 *[sic]*. <https://pwsrcac.net/wp-content/uploads/400.410.180731.BLMtapsRolMatrx.pdf>

Bureau of Land Management (BLM), 2002, "Final Environmental Impact Statement (FEIS): Renewal of the Federal Grant for the Trans-Alaska Pipeline System Right-of-Way. BLM/AK/PT-03/005-2880-990. <https://www.arlis.org/docs/vol1/BLM/2002/51557502/index.html>

Clifford & Garde, LLP, 2023, "Assessment of Risks and Safety Culture at Alyeska's Valdez Marine Terminal," report to PWSRCAC. <https://www.pwsrcac.org/announcements/council-report-assesses-risks-and-safety-culture-at-alyeskas-valdez-marine-terminal/>

General Accounting Office (GAO), 1991, "Trans-Alaska Pipeline Regulators Have Not Ensured that Government Requirements are Being Met," July. <https://www.gao.gov/assets/rced-91-89.pdf>

General Accounting Office (GAO), 1995, "Trans-Alaska Pipeline: Actions to Improve Safety are Under Way," August. <https://www.gao.gov/assets/rced-95-162.pdf>

Government Accountability Office (GAO), 2025, "Trans-Alaska Pipeline: Clarifying the Roles of Joint Pipeline Office Agencies Would Enhance Safety Oversight," June. <https://www.gao.gov/assets/gao-25-107390.pdf>

Comments on VMT Aging Infrastructure

The VMT will be approaching 90 years of operations in a harsh, coastal environment at the end of the TAPS ROW approval period currently being assessed. Some components of the system can be replaced when needed, but doing so requires monitoring their condition with a rigor and timeline that affords the opportunity to conduct replacements or repairs before a problem occurs. Many elements of the system are buried or otherwise difficult to access. Incidents and inspections, including corrosion findings, tank repairs, secondary-containment concerns, and VMT maintenance issues, provide empirical information that did not exist in 2002.

While APSC has made some recent necessary upgrades, including installation of the new waste gas combustor units that started in 2026, employees have expressed concerns to PWSRCAC that overall recent practice has been to minimize or eliminate procedures that were put in place as a consequence of past accidents or events, and that the management of change process, and other efforts designed to reduce risks to the company, the community, and the environment, have been altered and/or minimized.

The comments in this section highlight the lack of clarity and assurances regarding the maintenance program at the VMT as well as changes since the last TAPS ROW renewal related

to information on the integrity of the secondary containment system, cathodic protection of crude oil piping and storage tanks, and oil storage tank pressure/vacuum vents (PVVs).

Lack of Clarity and Assurances Regarding Reliability-Centered Maintenance at the VMT

PWSRCAC urges BLM to consider the lack of clarity and assurances regarding reliability-centered maintenance (RCM) or an equivalent approach at the VMT today. Specifically, PWSRCAC requests that the BLM reinstate JPO's oversight over APSC's RCM program, or the program APSC has adopted in place of RCM, to ensure that critical infrastructure including aging and obsolete equipment is properly maintained to prevent failure.

The 2002 FEIS (Volume 3, Section 4.1.1.7 Reliability-Centered Maintenance – JPO Oversight into the Future) states that, "The JPO recognizes that the TAPS has thousands of moving parts and operates under critical internal and external influences. If not operated and maintained properly, catastrophic injury to people and damage to the environment could result. Because the JPO believes that the useful life of the TAPS (i.e., how long it can operate safely) is directly related to the quality and effectiveness of system monitoring and maintenance, it asked APSC to review its asset maintenance management (AMM) program and to conduct a series of reliability-centered maintenance (RCM) analyses. The JPO and APSC have entered into a Memorandum of Agreement regarding APSC's use of RCM methodologies to underpin its maintenance activities (BLM et al. 2001, 2002)." The document further commits that, "Except for matters involving confidential business information or relating to national security, the JPO intends to continue to make the RCM decision making process open to public review."

In 2011, due to concerns about how RCM was being applied at the VMT, PWSRCAC hired former APSC employees Dan Hisey and Darryl Hammond to conduct a maintenance assessment advisory audit. Findings at that time indicated that overall maintenance appeared to have become disconnected from the original intent and commitment made under the last ROW renewal, with overly complex processes that were burdensome and reliant on a few key individuals' knowledge. Overall, the authors found a lack of understanding among APSC personnel of the purpose of RCM and that the approach was not effectively integrated into company procedures and decision-making.

Given the commitment in the 2002 FEIS quoted previously that the JPO would make the RCM decision-making process available for public review, it is extremely problematic that this 2011 snapshot is the most current and thorough accounting PWSRCAC is aware of regarding RCM that was cited as an important underpinning of the 2002 TAPS ROW approval. PWSRCAC is not aware of any JPO oversight over APSC's maintenance or RCM programs since the timeframe of the last ROW renewal (e.g., a 2001 JPO report on an RCM analysis of the ballast water treatment plant). Furthermore, it is PWSRCAC's understanding that following its Strategic Reconfiguration Project in the early-to-mid-2000s, APSC revised its maintenance approach, changing how the RCM program is utilized and implemented. While our understanding is that

APSC's RCM program is still part of its overall maintenance philosophy, it is not clear what program they are utilizing. It is clear, however, that there is little to no public accountability over any aspect of APSC's maintenance program today.

Requested BLM Actions

BLM should reinstate oversight including publicly available reporting on APSC's RCM program implementation, including data and decisions made.

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New Information on Integrity of Secondary Containment Liner

PWSRCAC recommends BLM critically evaluate the long-term integrity and regulatory compliance of the VMT secondary containment systems, specifically the East Tank Farm (ETF). Section 4.1.4.2 of Volume 3 of the 2002 FEIS identified the secondary containment area around tanks at the VMT as a spill prevention and response measure. New information since that time raises the fundamental issue of whether the terminal's buried, 50-year-old Catalytically Blown Asphalt (CBA) liners in the ETF can reliably satisfy federal land-use mandates, Environmental Protection Agency (EPA) Spill Prevention, Control, and Countermeasure (SPCC) rules (40 CFR 112.8(c)(2)), and Alaska Department of Environmental Conservation (ADEC) Oil Discharge Prevention and Contingency Plan (C-Plan) requirements over another multi-decade lease period given their advanced age, structural deterioration, and unproven testing paradigms.

While federal oil pollution regulations under EPA's SPCC rules require secondary containment to be "sufficiently impervious" to prevent oil from reaching navigable waters before cleanup, the federal land-use lease imposes a far higher legal and engineering threshold. TAPS ROW Stipulation 3.11.1 explicitly mandates: "containment structures shall be impervious so as to provide seepage-free storage until disposal of their contents can be effected safely without contamination of the surrounding area."

PWSRCAC emphasizes that this mandate establishes a zero-tolerance standard for subsurface migration. If the 50-year-old CBA liner permits any leaching, weeping, or migration of product into the underlying substrate, it represents an active violation of the core ROW grant terms (Taku Engineering 2025).

The subsurface CBA liners have been subjected to half a century of loading stress, localized soil settlement, precipitation, and freeze/thaw dynamics since construction of the VMT. Additionally, during construction of the VMT, on or around 1976, Alyeska reported that major fissures in the bedrock formations underneath the ETF were sealed by pressure grouting or epoxy, creating what they refer to as a “double liner lining system.” It is extremely questionable whether epoxy placed in bedrock fissures underneath the ETF 50 years ago has maintained its integrity, and even more questionable after the 86 years of this proposed renewal. These conditions drive long-term chemical brittleness, and heightened risks of cracking and seam separation. Because the liner is buried beneath a protective gravel overburden, most of it is not visible. Heavy mechanical excavation carries an inherent risk of puncturing the fragile, aged asphalt matrix. In fact, only around 1% of the liner has ever been uncovered and visually inspected, but in those rare opportunities, cracks, holes, or tears have been found around 20% of the time. According to filings from the City of Valdez and state records, these defects include massive tears (such as a 5-foot by 2-foot hole discovered during drainage pipe maintenance) and extensive networks of cracks spanning thousands of square feet. These were explicitly identified as pre-existing infrastructure failures rather than damage caused by the modern excavations themselves. These problems are not limited to the ETF and have also affected the similar CBA liner at the Ballast Water Treatment Facility.

APSC’s current verification methodology introduces significant technical uncertainty that should be scrutinized under NEPA. APSC initially selected Electrical Leak Location (ELL), a non-destructive method capable of mapping voltage fields across the buried floor to isolate unzipped seams or microscopic punctures, as their primary testing methodology for evaluating the integrity of the ETF secondary containment system. However, APSC abruptly made the decision to shift to hydrostatic testing instead of wide-area ELL surveys. A localized series of hydrostatic tests is underway as of the development of these comments.

The hydrotest methodology is structurally inadequate. The standard for secondary containment systems is a leak free barrier that protects groundwater until spilled crude oil can be detected and removed from the containment. Based on PWSRCAC expert opinions, APSC’s proposed acceptance criteria for the hydro-tests (drop of 0.021 +/- 0.020 and 0.030 +/- 0.020 feet) corresponds to leak rates that could allow large volumes of oil (roughly 100,000 gallons per hour) to reach groundwater. Based on the PWSRCAC’s initial review of APSC’s hydro-test results for dike cell #4, it appears an average loss of 0.01 feet over 12 hours was recorded (evaporation corrected), which is about 30 gallons a minute based on a 7-acre surface area for the entire dike cell. With that said, we do not know the actual area of standing water. If the area of standing water was closer to 5 or 6 acres, the leak rate would be more like 20 gallons per minute, something like a sump pump running continuously. Of note is that APSC’s report on the dike cell #4 test results states: “This report quantifies the observed

water-level change; it does not by itself attribute that change to liner leakage.” PWSRCAC is still in the process of analyzing the results of the hydro-tests and more tests are set to follow over the next year.

Requested BLM Actions

- Assess environmental impact of permeable secondary containment liners in the event of crude oil storage tank failures of different sizes.
- Formally evaluate whether short-term hydro-testing can guarantee "seepage-free storage" in a 50-year-old subterranean asphalt system that will be 80 years old at the end of the next ROW approval window.
- Mandate that a clear, scientifically-validated passing standard be formally approved by regulatory authorities before the hydro-tests can be accepted as proof of integrity under the ROW grant.
- Analyze the engineering feasibility, environmental benefit, and long-term timeline of replacing the 50-year-old CBA liners with modern, synthetic geomembrane frameworks (such as XR-5 liner systems).
- Analyze the engineering feasibility of leak-detection systems in the secondary containment dike cells.

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New Information on Cathodic Protection and the Impact on Buried Crude Piping and Crude Oil and Ballast Water Storage Tank Bottom Corrosion at the VMT

Cathodic protection (CP) is a primary defense against external soil-side corrosion on buried crude oil piping, and crude oil and ballast water storage tank bottoms at the VMT. The 2002 FEIS field practices and internal inspections reveal significant gaps in both CP monitoring execution and physical CP coverage. APSC has strayed from codified industry standards and its own written procedures, leaving critical structural assets, particularly crude tank perimeter floorplates, significantly unprotected, actively corroding, and unmonitored.

To ensure long-term integrity and prevent catastrophic spills to ground water and to Prince William Sound over the proposed renewed ROW period, PWSRCAC recommends BLM review and address these systemic CP deficiencies in the current ROW scoping process. PWSRCAC's concerns fall into three categories described in this section:

- Failure to follow codified procedures for CP monitoring data collection
- Deficient CP design and active corrosion on crude oil and ballast water tank perimeter floorplates
- Inability to monitor CP integrity under high-corrosion tank bottom perimeter areas

Failure to Follow Codified Procedures for CP Monitoring Data Collection

Sometime between 2002 and 2015, APSC's field CP technicians ceased following published procedures and industry standards for collecting CP data. Specifically, APSC has not fully accounted for voltage drop (iR drop) when applying the -850mV criteria. Voltage drop occurs in the soil when CP current flows, creating an error in potential readings. Accurate CP measurements require iR-free (instant-off) data, which should not be more negative than -1.100 to -1.200 V/CSE. Readings beyond this range indicate interference from external current sources. For example, APSC's reported "iR-free" data for Tank 2 between 2006 and 2022 included values as negative as -2.865 V/CSE², far exceeding the acceptable limit. This strongly suggests the presence of outside current sources that must be identified and eliminated to ensure accurate CP monitoring.

APSC has also omitted measuring the formation or decay of polarization when applying the 100mV shift criteria. APSC currently uses historical depolarized potential data to assess 100 mV of polarization, which does not comply with National Association of Corrosion Engineers (NACE) (now part of the Association for Materials Protection and Performance, AMPP) standards. These standards require measuring the formation or decay of polarization during the same timeframe as iR-free (Instant Off) data collection. Using data that is 1–3 years old fails to meet NACE SP-0193 requirements because depolarized potentials change over time due to soil conditions, temperature, moisture, and CP application. This practice introduces significant errors in evaluating corrosion protection.

APSC's internal procedure (MP-166-3.23) aligns with NACE standards, requiring depolarization checks until potentials stabilize or shift at least 100 mV more positive than instant-off readings. However, from 2006–2022, APSC relied on outdated depolarized data to confirm compliance, contradicting industry best practices, ADEC requirements, and its own procedures. This raises concerns about the accuracy of CP monitoring and the effectiveness of corrosion mitigation.

In sum, the CP data collected over the past decade is invalid and does not accurately measure the level of CP afforded to the structures. It provides a false sense of security regarding the

² Volts in reference to a copper/copper sulfate reference electrode.

level of protection actually afforded to VMT's buried crude piping, and crude oil and ballast water storage tank bottoms. PWSRCAC recommends that BLM review this issue and require APSC to appropriately apply the applicable procedures and standards to its CP program to reduce corrosion rates and prevent leaks from their tanks and piping during the 30-year renewal.

The applicable procedures and standards are as follows:

- APSC Procedure MP-166-3.23, Facilities Cathodic Protection Systems
- NACE SP-0169, Control of External Corrosion on Underground or Submerged Metallic Piping Systems
- NACE SP-0193, Application of Cathodic Protection for External Surfaces of Steel Storage Tank Bottoms

Deficient CP Design and Active Corrosion on Crude Oil and Ballast Water Tank Perimeter Floorplates

Review of original design documents indicates that existing CP systems were never designed to adequately protect the tank floor perimeter plates. The physical evidence of concentrated pitting confirms that these perimeter plates are actively corroding without adequate soil-side CP.

Tank inspections conducted between 2002 and 2025 demonstrate that soil-side pitting and corrosion on crude and ballast water storage tanks are heavily concentrated on the perimeter floorplates. In addition, water intrusion resulting from the absence of properly maintained chime seals between the annular plate and ring wall permits moisture intrusion beneath the tank floor, and exacerbates the CP design problems and resulting perimeter corrosion. Tank inspection and CP system reviews have also identified concerns related to anode crowding and increased circuit resistance, concluding that the proposed rectifier configuration might not provide sufficient output to overcome these limitations. Additional vulnerabilities included inadequate corrosion protection for the sump floor, uncertainty regarding CP current distribution beneath roof support columns, and the inability to directly monitor CP protection levels in these locations.

Unprotected and actively corroding floorplates present a direct threat to structural integrity, increasing the risk of uncontained oil releases beneath storage tanks. This combined with the unverified nature of the secondary containment system in the VMT's ETF and Ballast Water Treatment area present an unacceptable risk of environmental contamination in these areas.

Inability to Monitor CP Integrity Under High-Corrosion Tank Bottom Perimeter Areas

In many of the VMT's storage tanks the reference tube infrastructure installed beneath tank floors to facilitate CP testing was designed without slotting or perforations for the first 10 feet inward from the perimeter ring wall. Because the tube walls are solid in this zone, a reference cell inserted into the first 10 feet is physically insulated from the surrounding soil precluding

the collection of CP data there. This configuration limits the cell's ability to establish the localized electrolytic contact necessary to accurately measure the electrical potential of the outer perimeter floor and annular plates. When water is introduced to facilitate a reading, the electrical path is instead directed down the tube to the first available slots beyond the 10-foot mark. Consequently, data gathered in this zone may reflect the better-protected conditions of the tank's interior rather than the actual conditions of the outermost 10 feet.

In addition, historical floor replacements that left original annular plates and the soil beneath them in place mean that the outermost grid anode ribbons sit approximately 9 to 10 feet inside the perimeter. Because CP current from under-floor mixed-metal oxide ribbon grids travels primarily vertically over short distances, it faces significant physical limitations when migrating horizontally to reach the outermost edge plates and cannot adequately protect the tank perimeter. Inspections from 2002-2025 show that tank floorplate corrosion is concentrated on perimeter plates in both crude oil and ballast water storage tanks, which confirms that the perimeter floorplates are not adequately protected from soil-side corrosion. The exact physical areas suffering from the highest corrosion rates, subject to constant water intrusion, and receiving the least protection from existing CP designs, cannot be monitored for CP effectiveness or regulatory compliance under current testing setups.

Requested BLM Actions

- Require APSC to immediately resume CP monitoring that strictly complies with NACE SP-0169, NACE SP-0193, and MP-166-3.23, incorporating mandatory iR drop corrections and polarization decay measurements.
- Require a comprehensive engineering assessment and physical redesign/retrofit of tank bottom CP systems to ensure full coverage extends across all perimeter floorplates, under support columns, annular rings, and tank sump areas.
- Require modifications to tank floor testing slotted tube networks or the addition of monitoring coupons or permanent reference cells in tank perimeter areas so that real-time, accurate CP potential measurements can be taken directly beneath tank perimeters.
- Require design improvements such as replacing and maintaining annular plate-to-ring wall seals, and seal-welding floor plates and column base pads to eliminate corrosion-prone crevices.
- Require an independent engineering audit of all VMT buried piping and tank bottom CP monitoring records since 2002, to establish an accurate baseline of structural degradation.

Supporting Information

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Damaged Tank Vents Due to Inadequate Snow Removal and Associated Air Quality Impacts

BLM should evaluate the adequacy of current methods for detecting and documenting vapor releases from crude oil storage tanks at the VMT because of issues arising from damage to the tank vents in 2022. These issues provide important information about the performance of aging VMT infrastructure, maintenance and snow-management practices, vapor-control systems, regulatory oversight, and the ability to identify fugitive emissions. They should therefore inform BLM's evaluation of environmental risk over the proposed 30-year ROW term.

In March 2022, accumulated snow and ice on the VMT crude-oil storage tanks damaged PVV valve assemblies. ADEC records state that multiple tanks had more than six feet of accumulated snow and that snow load contributed to damage to PVV valves. PWSRCAC's subsequent technical review reported that 12 of the 14 then-active crude-oil tanks experienced some vent damage. In total, 11 vent nozzles were sheared off. The same review of ADEC records concluded that the VMT had no fixed instrumentation capable of readily identifying this type of vapor release and that gas sampling at a single thief hatch could not reliably characterize the composition of an entire tank headspace. (ADEC's noted violations have not been resolved, as discussed in a subsequent section regarding concerns with outstanding permit issues.)

A PWSRCAC-sponsored report by Dr. Ranajit Sahu, an expert with over 32 years in the fields of environmental, mechanical, and chemical engineering, conservatively estimated that roughly

79 to 193 tons of volatile organic compounds (VOC), including air pollutants hazardous to human health, were released from February through May 2022, and given the conservative assumptions used actual emissions are likely to have been more than 193 tons.

The 2022 incident also raises questions overall regarding PVV valves, thief hatches, and the detectability of fugitive vapor releases. PWSRCAC's 2023 safety-culture assessment noted that APSC had previously developed Project Z717, which contemplated installation of forward-looking infrared (FLIR) cameras on towers positioned to monitor tank vents, including a proposed 100-foot tower with line of sight to the ETF vents. That project was never implemented. PWSRCAC's assessment concluded that, had the project been implemented, there was a strong probability that the damaged vents would have been detected earlier than they were when the snow and ice damage occurred in 2022. In that incident, initial detection of leaking vents instead depended on a technician's sense of smell while conducting required rounds of the facility.

Additional inspection evidence indicates that the 2022 damage was not the only reason to consider improved emissions detection. A 2024 EPA Clean Air Act inspection report documented that FLIR cameras observed VOC flow from 21 of 77 closely observed PVVs on crude oil and ballast water storage tanks, or approximately 27% of the PVVs observed. The EPA inspector expressed concern that the PVVs were sensitive to very small pressure differentials in a location subject to extreme winds, that the facility lacked a method to verify or demonstrate when PVVs were opening or allowing flow, and that emissions from the PVVs might not be fully captured in excess-emissions reporting. This information supports evaluation of whether existing inspection and reporting practices are sufficient to identify intermittent, wind-related, mechanical, or other fugitive emissions releases.

BLM should therefore evaluate whether ongoing optical gas imaging, including FLIR or equivalent technology, should be incorporated into VMT monitoring. The purpose would not necessarily be to prescribe the original Z717 design. Instead, BLM should evaluate the performance objective that Z717 sought to address timely, objective detection of otherwise difficult-to-see VOC and hazardous air pollutant releases from tank vents, PVVs, thief hatches, vapor control components, and related equipment. Options could include fixed cameras, periodic mobile FLIR surveys, event-triggered surveys following severe weather or maintenance, or a combination of methods. Any monitoring program should include appropriate performance standards, inspection frequency, documentation, response thresholds, repair requirements, and regulator access to results.

Requested BLM Actions

- Evaluate the current design, inspection, maintenance, and operating performance of VMT crude-oil tank PVVs, conservation vents, thief hatches, and associated vapor-control components.
- Determine whether fixed or periodic optical gas imaging (FLIR or equivalent technology) is warranted to identify vapor releases that are not reliably detected by existing instrumentation or operator observation.

- Review APSC's previously proposed Z717 project as historical evidence of an identified monitoring need, while evaluating current technologies and the most appropriate present-day means of achieving that monitoring objective.
- Evaluate whether air monitoring should be routine, event-triggered, or both, including after heavy snow/ice events, maintenance, abnormal tank pressure conditions, vapor control system upsets, and reported excess emissions events.
- Explain how FLIR or other monitoring results would be documented, reported to regulators, linked to repair requirements, and used to verify compliance and environmental performance.

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Comments Related to Changes in VMT Operations

The system operating today differs materially from the configuration described at the time of the last ROW renewal. Strategic Reconfiguration began soon after the 2003 ROW approval resulting in modified pump-station and VMT infrastructure. The Operations Control Center (OCC) was relocated from the VMT to Anchorage, with alternate-control arrangements subsequently developed. Since 2014, the number of VMT crude oil storage tanks available for service has been reduced from the original configuration of 18 tanks. Oil throughput has reduced dramatically only to be predicted to increase again in the near future before

dropping again to levels lower than today. The prior FEIS contemplated that configuration would evolve, but that does not eliminate the need to evaluate the cumulative safety and known environmental consequences of the configuration.

BLM should identify every major system reconfiguration since the 2003 Record of Decision (ROD) and determine whether changes in redundancy, storage flexibility, surge capacity, maintenance access, fire protection, operational control, and emergency operations alter the risk assumptions relied upon in 2002.

Relocation of Operations Control Center

Changes to APSC's OCC and the remote operation of the TAPS, including the VMT, require consideration of the current resilience, security, redundancy, and continuity-of-operations capabilities of the system. The proposed 30-year ROW renewal should not rely solely on historical demonstrations of redundancy. The EA should evaluate the present configuration, current threats, current agency oversight, and the ability of operational and emergency systems to continue functioning when one or more critical systems are degraded or unavailable.

The relocation and consolidation of remote operational control materially changed the way TAPS and VMT assets are monitored and controlled. PWSRCAC work conducted since the last ROW renewal demonstrates that redundancy was a central concern when control functions were first relocated from the VMT to Anchorage in 2007. In its June 30, 2008 Project 507 report, PWSRCAC reviewed communications between the Anchorage OCC and VMT, including the primary Anchorage OCC, the alternate control capability then being moved from the VMT to Palmer, communications pathways, terminal equipment, power supplies, and fail-safe logic. The review concluded that communications between the Anchorage OCC and VMT appeared redundant at that time, while also identifying a common-mode vulnerability in portions of the Palmer alternate OCC communications infrastructure because multiple circuits shared microwave towers. The report further recognized that true redundancy requires separate physical assets and testing of failure modes, rather than simply the existence of multiple logical communications circuits.

Since that 2008 report, PWSRCAC understands that the OCC is now being moved again within Anchorage, with an estimated completion date for the move of November 2026. Therefore, the 2008 findings should be treated as an important historical baseline, not as evidence that the current system remains adequately redundant nearly two decades later or will remain so throughout another 30-year authorization. Communications technologies, network architecture, cybersecurity threats, control systems, vendors, operating procedures, staffing, physical facilities, and dependencies may have changed substantially. BLM should require a current evaluation of the complete control architecture and identify material changes since the earlier PWSRCAC review, including changes to the primary OCC, alternate control capability, Supervisory Control and Data Acquisition (SCADA) systems, communications

routes, power supplies, telecommunications providers, backup systems, fail-safe logic, and recovery procedures.

Cybersecurity should be evaluated as an environmental and pollution prevention issue, not solely as a matter of information technology or national security. A cyber incident affecting operational technology or communications could impair the ability to monitor VMT conditions, detect abnormal operations or releases, communicate with field and response personnel, remotely operate valves or other equipment, execute shutdown actions, or coordinate emergency response. The relevant environmental question for the ROW analysis is therefore whether a cyber or communications event could increase the probability, duration, or consequences of an oil spill or impede the ability to prevent, detect, contain, or respond to a release.

Federal oversight of these issues is divided among agencies. The Transportation Security Administration (TSA) has primary federal responsibility for pipeline physical security and cybersecurity, and has imposed cybersecurity requirements on designated critical pipeline owner/operators, including requirements addressing cybersecurity implementation, incident response, contingency planning, testing, and assessment. PHMSA regulates hazardous-liquid pipeline safety and its Control Room Management requirements address controllers, control rooms, SCADA systems, human factors, abnormal operating conditions, and emergency response. BLM administers the federal TAPS Grant and states that its Pipeline Monitoring and Environmental Compliance Section conducts inspections and participates in emergency response exercises to verify compliance with the Grant, current codes and standards, sound engineering principles, and emergency-response requirements. The JPO also includes federal and state agencies with safety and security roles. Because safety, security, operational control, and environmental protection intersect at the OCC, BLM should clearly identify how these authorities interact and whether any gaps exist between security oversight, pipeline safety oversight, ROW oversight, and VMT environmental oversight.

PWSRCAC recommends that BLM analyze common-mode and cascading failures rather than evaluating individual redundant components in isolation. The analysis should consider whether systems represented as independent ultimately rely upon common telecommunications infrastructure, electrical power, network equipment, software, cloud or vendor services, physical access routes, personnel, facilities, or other shared dependencies. Scenarios should include simultaneous or sequential failures in which an initiating event affects more than one protective layer—for example, a cyber incident coinciding with loss of communications; a seismic or severe-weather event affecting commercial power and telecommunications; loss of the primary OCC combined with delayed access to an alternate facility; or an operational event in which communications degradation impairs both control functions and emergency-response coordination.

The EA should also evaluate the adequacy of alternate control and continuity-of-operations arrangements. This should include the location and readiness of alternate control capability; time required to transition control; staffing and controller qualification; frequency and realism

of failover exercises; independence of power, communications, network, and physical infrastructure; manual or local control capability when remote systems are unavailable; and the ability to safely shut down and maintain VMT systems during an extended loss of primary control capability. BLM should determine whether backup systems are merely available or are demonstrably independent, routinely tested, and capable of supporting operations under credible multi-system failure scenarios.

Because detailed cybersecurity and security information may appropriately be protected from public disclosure, PWSRCAC is not recommending publication of sensitive system architecture, vulnerabilities, or defensive measures. However, protection of sensitive information should not prevent BLM from conducting and documenting a rigorous environmental analysis. The public record can identify the standards applied, agencies conducting independent oversight, categories of failure scenarios evaluated, frequency and type of testing, general conclusions regarding redundancy and resilience, and mitigation or ROW conditions relied upon without disclosing information that could compromise security.

For a 30-year ROW authorization, BLM should review and verify that the current OCC and associated control, communications, cybersecurity, and backup architecture provide sufficient resilience and redundancy not only under normal operating conditions, but under credible abnormal, emergency, malicious, and compound-event scenarios. Where BLM relies on APSC testing, cybersecurity plans, contingency plans, or internal assessments, the EA should explain what independent regulatory review or verification has occurred and which agency is responsible for ensuring continued performance throughout the ROW term.

Finally, PWSRCAC notes that the current requirement that the OCC remain located in Alaska should be continued for the duration of TAPS operations.

Requested BLM Actions

- Identify the current primary and alternate OCC/control architecture and describe material changes since PWSRCAC's 2008 redundancy review, without disclosing sensitive security information.
- Evaluate whether communications, power, SCADA, network, backup, and alternate-control systems are physically and functionally independent or share common points of failure.
- Analyze credible common-mode and cascading failure scenarios, including cyber incidents, telecommunications loss, power loss, severe weather, seismic events, loss of facility access, staffing limitations, and combinations of these events.
- Evaluate how loss or degradation of operational technology could affect leak detection, alarm recognition, remote valve/equipment control, shutdown capability, VMT operations, communications, and emergency response coordination.
- Describe alternate-control transition capability, staffing, qualification requirements, failover testing, manual/local control options, and the ability to maintain a safe condition during an extended loss of the primary OCC.

- Identify the respective oversight responsibilities of TSA, PHMSA, BLM, and other JPO agencies for OCC physical security, cybersecurity, control-room safety, SCADA reliability, continuity of operations, and environmental/spill-prevention consequences.
- Explain how BLM will independently verify the adequacy of OCC redundancy and resilience when detailed cybersecurity or security information cannot be made public.
- Identify any mitigation measures or ROW conditions needed to ensure that control, communications, backup, and emergency-response capabilities remain adequate throughout the proposed 30-year authorization.
- Ensure that the OCC remains in Alaska for the duration of TAPS operations.

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Reductions in VMT Personnel May Compromise Safety of Operations

The VMT is being operated with fewer people than at the time of the last TAPS ROW renewal. BLM should consider the impacts of staffing changes on all aspects of VMT safety systems. Loss of institutional knowledge, reduced staffing and fatigue management at APSC create serious risks, especially if there are not adequate personnel to conduct realistic timely and effective risk assessment. Staffing reductions may increase the risk of workplace accidents by creating heavier workloads, higher fatigue levels, and reduced safety oversight. Reductions in

the workforce by 10% in 2018, and again in 2025, among others, indicate a downward trend in the number of personnel involved in maintaining and running TAPS. PWSRCAC is concerned that these reductions are concurrent with information being shared with our organization that indicates a heightened emphasis on cutting costs under the current TAPS ownership structure. Additionally, BLM should also ensure that APSC is maintaining emergency response coverage at the VMT 24/7. Oil spill responders, medics, and firefighters are costly and are vulnerable to cost-cutting initiatives.

APSC used to regularly report to BLM/JPO on staffing numbers, changes due to retirements and/or resignations, and the level of training and experience for key positions, but it appears that no agency is currently tracking this information. Therefore, it is not possible for PWSRCAC or the public to do any quantitative assessment of APSC staffing and training/experience because of the lack of information available to PWSRCAC. APSC has not provided detailed organizational charts to PWSRCAC despite repeated requests.

Inadequate resources and budget pressures, coupled with reorganizations and reductions in staffing at APSC was a common theme in PWSRCAC's April 2023 report "Assessment of Risks and Safety Culture at Alyeska's Valdez Marine Terminal" by Billie Pirner Garde. The report cites an example shared by APSC employees of a 2021 hazard recognition report (Number 88097) filed regarding the impact of reduced night shift staffing on safety at the VMT Power Vapor (PV) facility. The issue remained open a year later.

In November 2021, PWSRCAC was made aware that a VMT PV operator prepared Hazard Recognition Report, Number 88097, on the "Reduction in CRO's Staffing at PV on Nights." The Hazard Recognition identified a "compromised safety system" in the PV facility, due to the reduction of night staff to a single Control Room Operator (CRO). Concerns were based on direct experience with a system failure to which the CRO was unable to respond appropriately due to having too many simultaneous duties to complete alone. The November 2021 Hazard Recognition Report concluded that this situation is "a single point failure for Alyeska, because the failure of either the Powerhouse or Vapor Recovery System would lead to a pipeline shut down and the inability to load ships."

According to the U.S. Chemical Safety Board, some of the underlying factors of the March 23, 2005 Texas City refinery explosion that killed 15 employees and seriously injured 180 others was a lack of supervisory oversight and technically trained personnel, operators likely fatigued, and an inadequate operator training program.

After PWSRCAC released the 2023 report, APSC provided an update on its efforts to assess and address the issues raised in this report that included development of a human factors program for TAPS with a phased implementation to begin in 2025 or 2026. However, APSC subsequently indicated to PWSRCAC that that it was not able to implement this program due

to responding to even further reduced personnel, in this case due to retirements and resignations.³

TAPS throughput fluctuations do not necessarily mean the number of people required to safely operate the VMT changes. If there are cost pressures at today's throughput volumes, it is reasonable to assume these will only increase when throughput drops to 300,000 barrels per day as indicated in BLM's letter to Tribal organizations at the start of this scoping period that reads "...the Federal Energy Information Administration predicts Alaska crude oil production to be approximately 300,000 bbls/day by 2050." The reduced throughput highlights the importance of BLM/JPO monitoring personnel numbers and training throughout the next ROW lease term.

Human factors-related accidents significantly increase when experienced employees leave and knowledge gaps are created. When critical operational knowledge is lost, organizations can experience compromised safety, operational reliability, and decision-making quality.

Requested BLM Actions

- Assess APSC staffing reductions, loss of institutional knowledge, qualifications and experience of remaining personnel, succession planning, workload, contractor reliance, and human-factor risks.
- Determine how staffing and safety culture affect prevention, operations, maintenance, emergency response, and the durability of assumptions BLM may rely upon for the 30-year ROW.
- Ensure that APSC is maintaining emergency response coverage at the VMT 24/7. This includes adequate oil spill responders, medics, and firefighters.
- Require that APSC provide regular updates on staffing levels including background information on the level of experience and/or training being required for individuals in key safety and management positions.
- Require APSC to implement the Human Factors Program they committed to doing in their October 2024 Risk & Safety Culture Assessment: Management Action Plan Closeout Report to PWSRCAC.

Supporting Information

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Changing VMT Throughput, Oil Temperature, and Crude Oil Storage Capacity

TAPS throughput volumes have changed dramatically over its lifecycle of TAPS and are anticipated to change again in the future. The impact of these changes on the integrity and management of the system should be analyzed to assess the impacts on the system and potential for spills resulting from widely varying throughput levels that may occur during the next 30-year ROW term. This includes both forecasted increases and eventual decreases that go below recent relatively low-throughput volumes.

Temperature Changes Resulting from Lower Throughput

The 2002 FEIS anticipated declining throughput and analyzed spill volumes at multiple throughput levels, including approximately 0.3, 1.1, and 2.1 million barrels per day. Actual operating experience during the current ROW term has demonstrated that sustained lower throughput creates integrity and operating challenges that deserve updated analysis. In their 2025 report, the GAO reported that total TAPS throughput fell from approximately 744 million

barrels in 1988, to 170 million barrels in 2024. BLM reports that TAPS averaged approximately 463,000 barrels per day in 2025.

Lower flow causes the crude oil to spend more time in the pipeline and become colder, contributing to water separation, wax deposition, and internal-corrosion concerns. It also means the oil is cooler in the tanks at the VMT, which is relevant to the lessons learned regarding snow build up and removal resulting from the 2022 tank vent incidents discussed above. The next EA should compare the prior low-flow assumptions with actual operating experience at the VMT, identify the technologies and operating practices now required to manage low throughput, and evaluate both lower-flow and potential increased-flow scenarios over the next 30 years.

Readiness of VMT to Handle Increased Throughput Due to Reduced Storage Capacity

At the time of the last ROW renewal, the VMT had all 18 original storage tanks in operation for a total facility storage capacity of 9 million barrels. Currently, the VMT is operating with 13 of the original 18 storage tanks. The four tanks of the West Tank Farm (Tanks 15-18) have been permanently disconnected, decommissioned, and are no longer operational. In the ETF, Tank 8 has also been decommissioned and permanently taken out of service. This is a storage capacity decrease of 2.5 million barrels, or 28%.

Assuming the Pikka and Willow projects on the North Slope produce at their forecasted volumes in 2030, TAPS throughput might reach 750,000 barrels per day (though BLM shares an estimate of 650,000 barrels per day), an amount not seen since before 2007. In 2007, the ETF had all tanks available and the West Tank Farm still had one tank (Tank 16) available, for a total of 15 of 18 crude oil storage tanks. This represents an additional million barrels of storage capacity than what is available today, or 1.2 days less of available storage at the projected 750,000 barrels per day production rate. BLM should examine the adequacy of the storage capacity to ensure that it does not increase the potential risk of system disruptions or oil spills for the following reasons:

- Weather closures may delay tanker departures or loading at the VMT. The U.S Coast Guard can close Port Valdez to all tanker traffic and Hinchinbrook Entrance to outbound laden tanker traffic if certain wind speed or wave height thresholds are reached. Hazardous weather at the VMT can also prevent loading, if the oil spill mitigation method of booming a tanker while loading is compromised by wind and sea states. Unfortunately, weather closures are challenging to predict given the inaccuracy of longer-term weather forecasts and thus equally likely to occur during periods of low or high inventory. While closures are more common in fall and winter, reduced operational flexibility also occurs in summer as the VMT has relied on a single operating berth for extended periods of time in the last three years due to annual maintenance during these months.

- Since 2007, the number of U.S. flagged tankers available to transport crude oil from the VMT to West Coast refineries has diminished dramatically as there are fewer U.S.-flagged tankers available following the OPA 90 required phase-out of single-hulled tankers. If the projected TAPS throughput increases to 2007 levels, it can be expected that tanker calls will also increase. In 2007, there were 301 tanker calls at the VMT (compared to 196 in 2025). While it is possible that spot chartering foreign-flagged vessels could account for part of this deficit, long vessel transit times to refineries in Asia would increase scheduling uncertainty and decrease flexibility of VMT operations in periods of high crude oil inventory compared to relying on U.S. flagged vessels under long-term time charter with North Slope oil producers.
- Crude oil refining capacity in California, a significant market for North Slope oil since TAPS' inception, has decreased from roughly 2 million barrels per day in 2007, to 1.6 million barrels per day in 2025. Valero also recently closed its Benicia refinery in April 2026, representing an additional loss of 170,000 barrels per day of refining capacity.
- Currently operating tanks will be unavailable due to required internal inspections in 2029 (Tanks 4 and 6), 2031 (Tanks 1 and 11), and 2032 (Tanks 10, 13, and 14). Required storage tank inspections are outlined in the VMT C-Plan. If internal inspections are conducted on two or three tanks simultaneously, this represents a reduction of 1.2-1.8 days of storage inventory at the projected 2030 throughput volume while the tanks are unavailable.

A JPO report released in 2004 recommended that APSC maintain 14 operating crude oil storage tanks at a time when throughput was roughly 900,000 barrels per day. With predicted throughput volume expected to increase in the near-term and given the additional operational flexibility challenges identified above that have been introduced since the previous ROW renewal, PWSRCAC recommends BLM perform a robust review of VMT storage capacity and inventory management practices.

Impact of Reduced Throughput Projected by 2050

In letters sent to Tribal organizations at the start of the ROW renewal scoping period, BLM explains that TAPS throughput is expected to increase to approximately 650,000 barrels per day in the next 10 years, then decrease to approximately 300,000 barrels per day by 2050. Since the current ROW period does not end until 2034, most of that elevated throughput will happen in the current ROW term. This means that for much of the next 30-year ROW renewal, TAPS throughput is forecasted to be lower than it is today. In 2011, APSC conducted a study of the impact of low flow conditions on infrastructure which concluded that, "Each year that volumes decline further, the TAPS is operated at a throughput never before experienced, not even when the pipeline was first started. Likely there are issues related to operating the

pipeline below 350,000 BPD that have not yet been identified." Since the Federal Energy Information Administration predicts a throughput lower than 350,000 barrels per day, BLM should ensure that the impacts of these changes at the VMT are thoroughly examined, anticipated, and mitigated before problems occur.

Requested BLM Actions

- Analyze a variety of throughput ranges through TAPS over the next 30-year ROW term from near-term projected increases due to new fields coming online (e.g., Pikka, Willow), potentially larger production increases in the future based on recent discoveries and record-setting lease sales including in the National Petroleum Reserve Alaska, and longer-term low-flow scenarios.
- Compare the prior low-flow assumptions with actual operating experience, identify the technologies and operating practices now required to manage low throughput, and evaluate both lower-flow and potential increased-flow scenarios over the next 30-year ROW term.
- Examine VMT crude oil inventory data since the last ROW renewal and explore any trends that exist given the steady decline in throughput since 2002.
- Evaluate storage capacity and operational margins for both high- and low-throughput scenarios assuming only 13 of the original 18 crude oil storage tanks at the VMT are currently operational.
- Determine how long the VMT can safely manage inventory during weather, port, berth, tanker limitations and/or restrictions, or other disruptions to loading.
- Consider how the downstream implications of oil loaded at the VMT might affect crude oil storage capacity. Factors to examine could include the aging U.S.-flagged tanker fleet and reduced capacity at California refineries.

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2023 Fire and Concerns Related to Fire Suppression Reliability, Transparency, AFFF Transition, and Catastrophic Fire Risk

PWSRCAC recommends that BLM evaluate the current condition, demonstrated reliability, inspection, testing, maintenance, long-term asset management, and transparency of the VMT fire suppression system, with particular attention to the ETF. This concern stems mainly from a 2023 fire during tank-bottom processing which provides an opportunity not only to evaluate the performance of fire suppression systems but also highlights the difficulty in obtaining verifiable details about both the event and fire suppression system performance.

The current issue is whether sufficient objective and independently reviewable information is available to demonstrate that the present system is maintained, tested, reliable, and capable of performing as required during a major emergency and throughout a proposed 30-year ROW term.

The August 2023 tank-bottom processing fire provides an important opportunity to evaluate actual fire protection performance during a real VMT emergency. PWSRCAC received information indicating that problems and delays in the response may have occurred due to identifying working fire hydrants during the response. However, PWSRCAC has not received sufficient underlying technical data to independently determine what occurred, which hydrants or other firewater components were affected, whether the system performed as

designed, whether water pressure or flow was affected, what role system configuration or maintenance may have played, or what corrective actions were subsequently implemented. PWSRCAC is therefore not characterizing the hydrants as having failed without supporting data. The appropriate issue for BLM to review is the lack of transparency and independently reviewable performance information necessary to determine what happened and whether any underlying condition has been corrected.

In response to the 2023 tank-bottom processing fire, the 2025 GAO report states “Following the fire, the Council asked JPO to clarify agencies’ oversight in these kinds of incidents. In response, JPO provided a letter signed by three JPO agencies that summarized the responsibilities of five JPO agencies related to tank bottom processing. The letter stated that no single JPO agency had regulatory authority over every aspect of conducting this process. The letter indicated that the five JPO agencies listed did not have specific, if any, regulatory authority over this process. In addition, two stakeholders familiar with the Terminal said that deferred maintenance at the Terminal had increased in recent years, and it was unclear which JPO agency would have the authority to oversee efforts to address deferred maintenance.”

BLM should obtain and evaluate the actual records associated with the 2023 response, including incident logs, hydrants and firewater equipment used or attempted to be used, available pressure and flow information, equipment impairment records, responder observations, post-incident inspections and testing, identified deficiencies, corrective work orders, and documentation demonstrating closure of any corrective actions. If APSC determined that the reported hydrant concerns did not represent a system deficiency, the record should contain sufficient information for BLM to independently understand and evaluate that conclusion.

More broadly, BLM should evaluate what maintenance of the VMT fire suppression system actually looks like in practice. The review should include preventive maintenance schedules and completion rates; hydrant inspection, exercising, and flow testing records; firewater-main inspection and repair history; pump inspection and performance testing; valve exercising; fixed foam system inspection and testing; monitors, deluge and tank-cooling systems; emergency power and backup equipment; system impairments and out-of-service periods; failed tests; corrective maintenance; recurring deficiencies; overdue or deferred maintenance; component replacement criteria; and planned capital improvements. The existence of a maintenance program or statement of compliance is not a substitute for examining the underlying performance record.

For a proposed 30-year authorization, PWSRCAC also recommends that BLM evaluate asset life and modernization. Firewater mains, hydrants, pumps, valves, foam proportioning and delivery equipment, electrical and control components, and other fire protection assets will continue to age during the ROW term. BLM should determine the age and expected service life of critical components, how APSC identifies deterioration before failure, what inspection or performance criteria trigger replacement, whether there is a backlog of corrective or

deferred maintenance, and what capital-replacement or modernization program is expected to maintain system reliability through approximately 2064.

The transition away from aqueous film-forming foam (AFFF) and other per- and polyfluoroalkyl substance (PFAS) containing firefighting foams should be evaluated as part of this long-term analysis. APSC has begun converting VMT fixed firefighting systems to fluorine-free foam, including a completed conversion at Berths 4 and 5. While the Council commends Alyeska for proactively transitioning away from AFFF containing toxic PFAS substances, the ROW analysis should identify which VMT systems, including ETF systems, continue to rely on AFFF or other PFAS-containing foam; the schedule for conversion; the firefighting agents that will replace them; and whether replacement agents have been demonstrated to provide adequate performance for the specific crude-oil fire hazards and system configurations at the VMT.

The foam transition involves more than replacing concentrate. BLM should evaluate compatibility with existing tanks, pumps, proportioning equipment, piping, nozzles, monitors, and fixed application systems; required application rates and duration; concentrate inventory and reserve supply; testing and acceptance criteria; training; transition sequencing; and the ability to maintain full firefighting capability while individual systems are being converted. The environmental review should not assume that today's foam inventory, equipment configuration, or regulatory framework will remain unchanged for the next three decades.

AFFF also presents a potential secondary environmental consequence during a major fire. If PFAS-containing foam remains available for emergency use, BLM should identify the circumstances under which it could be deployed and evaluate how foam and contaminated firewater would be contained, recovered, managed, and prevented from reaching Port Valdez. This issue should be considered in context: during a catastrophic crude oil fire, use of an effective firefighting agent may be necessary to prevent a much larger immediate environmental disaster. BLM should therefore evaluate both firefighting effectiveness and the environmental consequences of the agents relied upon.

The potential consequences of a major ETF fire warrant explicit analysis. A severe fire could threaten more than the initiating tank, process, or piece of equipment. Radiant heat, flame impingement, explosion, loss of containment, or structural failure could expose adjacent crude oil tanks and damage piping, electrical systems, firewater infrastructure, secondary containment, communications, operational control systems, access routes, or other equipment necessary for response. A cascading event could therefore combine fire, a large crude oil release, impaired containment, reduced firefighting capability, and constrained spill response.

BLM should evaluate whether sufficient firewater and foam capability can be sustained for the duration of credible ETF fire scenarios, not merely whether water or foam can initially be delivered. The analysis should consider the water and foam demand associated with controlling the initiating fire while simultaneously cooling or protecting adjacent tanks and equipment. It should also consider whether system isolation, reserve capacity, backup

pumping, alternate water supply, and available staffing are sufficient if portions of the firewater system are damaged or unavailable.

The analysis should also address common-mode and cascading failures. A fire suppression system may perform adequately under normal conditions but be unavailable when most needed if the event causing the fire or spill also damages the systems required to respond. PWSRCAC recommends BLM evaluate credible scenarios involving earthquakes, severe snow and ice events, extreme weather, power loss, communications disruption, loss of operational-control capability, restricted road or facility access, and staffing limitations. The review should determine whether firewater pumps, electrical supplies, backup generation, communications, access, water supply, foam systems, and response personnel have shared dependencies that could be lost simultaneously.

This is particularly important for a 30-year ROW decision. The relevant question is not simply whether a catastrophic ETF fire is considered unlikely. PWSRCAC recommends BLM evaluate both probability and consequence over the full ROW authorization period and determine whether the prevention, suppression, containment, and response systems relied upon to prevent a severe fire from becoming an environmental catastrophe are sufficiently robust, independent, maintained, and verifiable.

Transparency should be a central component of that evaluation. PWSRCAC is not requesting disclosure of security-sensitive design information that could create vulnerabilities. However, security concerns should not prevent BLM or the public from understanding whether critical systems are being maintained and tested, whether deficiencies have occurred, whether corrective actions have been completed, and whether system performance has been independently verified. Appropriate non-sensitive summaries, performance metrics, inspection results, impairment histories, and corrective action information can provide meaningful transparency without disclosing detailed security-sensitive infrastructure information.

For the proposed ROW renewal, the central question is: What objective and independently reviewable evidence demonstrates that the VMT fire suppression system is maintained, tested, sufficiently redundant, and capable of controlling a credible catastrophic ETF fire - including during an event that simultaneously damages other VMT infrastructure - and how will that capability be maintained as AFFF and other PFAS-containing firefighting agents are phased out or replaced over the next 30 years?

Requested BLM Actions

- Obtain and evaluate the underlying fire response and firewater system records from the August 2023 tank-bottom processing fire, including the reported hydrant concerns, rather than relying solely on summaries or assurances regarding system performance.
- Determine what occurred with the hydrants or other firewater components during the 2023 response, whether system performance was affected, what caused any identified

problems, what corrective actions were taken, and what subsequent testing demonstrates that the issues were resolved.

- Review the current preventive and corrective maintenance program for hydrants, firewater mains, pumps, valves, monitors, deluge and cooling systems, foam systems, emergency power, and other critical fire protection assets.
- Evaluate inspection and test frequency, maintenance completion rates, failed tests, impairments, recurring deficiencies, overdue or deferred maintenance, corrective action closure, and trends in system performance.
- Identify the age, expected service life, replacement criteria, and planned modernization of critical fire protection assets over the proposed 30-year ROW term.
- Identify which VMT fire protection systems currently rely on AFFF or other PFAS-containing foam, which have been converted to fluorine-free alternatives, and the schedule for remaining conversions.
- Evaluate whether replacement foams and associated equipment provide adequate performance for the specific crude oil fire hazards at the VMT, including application rates, duration, concentrate inventory, reserve supply, equipment compatibility, testing, and training.
- Evaluate how AFFF/PFAS-containing firefighting foam and contaminated firewater would be contained and managed if use is necessary during a major fire.
- Analyze credible catastrophic ETF fire scenarios, including fire spread, adjacent tank exposure, multiple tank involvement, loss of containment, and damage to firewater, power, communications, secondary containment, operational control, access, and spill response systems.
- Determine whether sufficient firewater and foam capacity can be sustained for a prolonged event requiring simultaneous fire attack, tank cooling, exposure protection, and spill response.
- Evaluate common-mode and cascading events in which an earthquake, severe weather event, power failure, communications disruption, or other initiating event simultaneously causes a fire or release and impairs the systems needed to respond.
- Identify minimum staffing and response resources necessary to operate fire suppression, spill response, operational control, and incident management functions simultaneously during a major event.
- Provide sufficient non-sensitive maintenance, testing, impairment, performance, and corrective action information to allow meaningful independent review while appropriately protecting legitimate security-sensitive information.
- Where BLM relies on future maintenance, modernization, foam conversion, testing, staffing, or other commitments to support its environmental conclusions, PWSRCAC recommends BLM establish measurable and independently verifiable performance requirements for the full ROW term.

Supporting Information

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Prince William Sound Regional Citizens' Advisory Council (PWSRCAC), 2024, "Alyeska: New Firefighting System to Reduce Use of PFAS." <https://www.pwsrcac.org/observer/alyeska-new-firefighting-systems-to-reduce-use-of-pfas/>

Comments on Unresolved Permits on Air and Water Quality

Water Quality

The impact of wastewater discharge from the VMT on the marine environment of Port Valdez and Prince William Sound should be analyzed in the NEPA review of the proposed ROW renewal. Alaska is authorized by EPA under the Clean Water Act to implement the National Pollutant Discharge Elimination System program. The current Alaska Pollutant Discharge Elimination System (APDES) Permit AK0023248, expired November 30, 2024. That permit authorized a chronic mixing zone with dilution factors for zinc, total aromatic hydrocarbons, total aqueous hydrocarbons, pH, ammonia, and chronic whole effluent toxicity. It also authorized an acute mixing zone for zinc.

While the permit is listed as a priority in the ADEC Permit Issuance plan for the 2026-2027 calendar year, it remains outstanding. Without the permit, BLM does not have access to the data needed to assess VMT wastewater impacts to the marine environment. This information is critical to appropriately assessing environmental impacts of normal VMT operations.

Requested BLM Action

BLM should consider potential impacts to the marine environment from all marine pollutants and contaminants that have been discharged from the VMT under previously issued APDES

permits, as well as marine pollutants and contaminants that are not currently regulated but could be during the 30-year ROW renewal period.

Key Supporting Information

Alaska Department of Environmental Conservation (ADEC), (no date), "2026-2027 Permit Issuance Plan: AK0023248, Alyeska Valdez Marine Terminal, expiration 11/30/2024, receiving water Port Valdez, planned issuance 2027." <https://dec.alaska.gov/water/wastewater/pip/>

Alaska Department of Environmental Conservation (ADEC), 2019, "Notice of Proposed Issuance of an Alaska Pollutant Discharge Elimination System Individual Permit to Discharge to Waters of the United States - Alyeska Pipeline Service Company - Valdez Marine Terminal." <https://aws.state.ak.us/OnlinePublicNotices/Notices/View.aspx?id=193610>

Air Quality

Following the tank air vent damage in 2022 (discussed previously), ADEC requested an EPA applicability determination after a May 23, 2023 inspection identified a conservation vent leaking VOCs. EPA Region 10's April 4, 2024 applicability determination concluded that the VMT crude oil storage tank conservation vents are not part of the closed vent system; rather, they bypass the closed vent system by allowing emissions to be released directly to the atmosphere. EPA also stated that, because APSC had not provided information showing that the vents operated only during unplanned, accidental, or emergency events, EPA could not affirm that the conservation vents qualified as "safety devices" under 40 CFR 63.2406.

The 2022 incident also resulted in formal air compliance concerns. Three Notices of Violation (NOVs) issued by ADEC on May 3, 2022, in response to the 2022 tank vent incident, allege 12 sets of excess air emissions from the VMT storage tanks related to PVVs being damaged and sheered off by snow. ADEC alleges in Violation 1 that these reported excess emissions violated Condition 18 of the VMT's facility operating permit which states the Permittee shall not cause or allow Emission Units ID 29-46 to vent to atmosphere. ADEC alleges in Violation 2 that the Permittee violated condition 60 of the Permit which prohibits "any emission which is injurious to human health or welfare, animal or plant life, or property, or which would unreasonably interfere with the enjoyment of life or property." The NOV does not detail how the emissions violated this standard but for each Count states, "The Department is still investigating the circumstances and the volume of Volatile Organic Compounds (VOCs) and Hazardous Air Pollutants (HAPs) that was released to the atmosphere from the Crude Oil Storage Tank." To PWSRCAC's knowledge, ADEC's NOVs remain outstanding over four years since they were issued.

Alaska also implements federal Clean Air Act regulations. Current Title V permitting status should also be accurately characterized. ADEC's 2025 technical analysis for VMT Minor Permit AQ0082MSS06 states that the VMT currently operates under Operating Permit AQ0082TVP02. ADEC's January 2026 regulatory reform decisional document states that renewal of AQ0082TVP02 is delayed due to litigation and that other permit terms remain enforceable. Accordingly, PWSRCAC recommends that the ROW analysis not characterize the facility simply

as protected by an existing “permit shield” or treat the long-pending renewal as environmentally irrelevant. BLM should instead identify the current permit status, the basis for administrative continuation or enforceability of applicable requirements, material issues awaiting incorporation into the renewed permit, and whether unresolved permitting or compliance questions create uncertainty relevant to a 30-year federal authorization.

The National Emissions Standards for Hazardous Air Pollutants for Organic Liquids Distribution (NESHAP-OLD), 40 CFR Part 63, Subpart EEEE, also remains relevant. APSC petitioned for judicial review of EPA's 2020 amendments and sought reconsideration and a stay of certain provisions. The D.C. Circuit stayed specified provisions as applied to APSC while EPA considered administrative reconsideration. EPA's 2024 reconsideration rule addressed some issues, including storage vessel degassing, but expressly stated that other matters for which EPA had granted voluntary reconsideration - including work-practice standards for venting from conservation vents on the VMT crude oil tanks and fence-line monitoring - were still being reviewed and were not resolved in that action. EPA's April 2024 VMT-specific applicability determination further clarified the regulatory characterization of conservation vents but did not itself resolve every broader NESHAP-OLD issue raised by the VMT.

Because ADEC states that the Title V renewal remains delayed by litigation, PWSRCAC recommends that BLM obtain and summarize the current status of the relevant judicial and administrative proceedings rather than relying on historical descriptions of the dispute. The important environmental review question is not which party ultimately prevails on every legal issue. It is whether unresolved regulatory questions affect assumptions concerning vapor capture, monitoring, tank maintenance, degassing, vent operation, compliance assurance, or expected emissions during the next 30 years. Where the ROW analysis relies on air permit requirements or NESHAP obligations as mitigation or as part of the environmental baseline, BLM should identify which requirements are currently enforceable, which are stayed or disputed, which are under reconsideration, and which future permit conditions are not yet final.

These issues also illustrate why BLM's 30-year analysis should distinguish between legal compliance and environmental performance. A facility may continue operating under an administratively continued permit while renewal is pending, but the existence of an enforceable permit does not by itself answer whether current monitoring is sufficient to detect intermittent/fugitive releases, whether prior incidents have been fully resolved, or whether the regulatory framework that will govern the facility over the next three decades is sufficiently settled. PWSRCAC recommends that BLM use the 2022 vent damage event, later FLIR observations, EPA's 2024 applicability determination, current permit status, and unresolved regulatory matters as new information when evaluating the adequacy of air-quality protections and VMT operational controls.

Requested BLM Actions

- Obtain and disclose the current status and final disposition, if any, of ADEC's May 3, 2022 Notices of Violation, including findings, emission estimates, corrective actions, penalties or compliance requirements, and any remaining unresolved matters.
- Accurately describe the current Title V permit status: VMT operates under permit AQ0082TVP02, while renewal remains delayed by litigation, with applicable existing terms continuing to be enforceable.
- Identify the current status of NESHAP-OLD judicial and administrative proceedings relevant to VMT, including any provisions that remain stayed, disputed, or under reconsideration.
- Evaluate whether unresolved Title V, NOV, NESHAP-OLD, conservation vent, and monitoring issues create uncertainty that should be addressed through the EA, mitigation, monitoring commitments, or conditions of the renewed ROW.
- Recommend BLM not rely on the existence of an operating permit or "permit shield" as a substitute for evaluating actual environmental performance, detection capability, unresolved compliance matters, and the adequacy of future protections over the full 30-year ROW term.

Key Supporting Information

Alaska Department of Environmental Conservation (ADEC), 2025, "Minor Permit AQ0082MSS06 Technical Analysis." <https://pwsrcac.net/wp-content/uploads/AQ0082MSS06-Pre-TAR-2.20.2025.pdf>

Alaska Department of Environmental Conservation (ADEC), 2022, "Notice of Violation for Alyeska Pipeline Service Company, Valdez Marine Terminal, Air Quality Operating Permit No. AQ0082TVPO2, File No. 2264.16.01, AT Case No. 6227, Enforcement Tracking No. 22-R0125-40-0001," letter to APSC. <https://pwsrcac.net/wp-content/uploads/FINAL-ADEC-NOV-5.3.22.pdf>

Environmental Protection Agency (EPA), 2024, "Clean Air Act Partial Compliance Evaluation Inspection Report: Alyeska Pipeline Service Company Valdez Marine Terminal." <https://www.toxicdocs.org/d/2qe2ep9zZo7bLjG3RQ6YxOQY7>

Environmental Protection Agency (EPA), Region 10, 2024, "Applicability Determination for Alyeska Pipeline Service Company, Valdez Marine Terminal," April 4. https://www.epa.gov/system/files/documents/2024-11/alyeska-pipeline-service-company-response_4-4-24.pdf

Environmental Protection Agency (EPA), 2024, "National Emission Standards for Hazardous Air Pollutants: Ethylene Production, Miscellaneous Organic Chemical Manufacturing, Organic Liquids Distribution (Non-Gasoline), and Petroleum Refineries Reconsideration," Federal Register 89 FR 23840. <https://www.govinfo.gov/app/details/FR-2024-04-04/2024-05906>

Environmental Protection Agency (EPA), 2026, "Organic Liquids Distribution: National Emission Standards for Hazardous Air Pollutants (NESHAP): Rule History."

<https://www.epa.gov/stationary-sources-air-pollution/organic-liquids-distribution-national-emission-standards-hazardous>

Taku Engineering, 2003, "Final Report: Crude Oil Storage Tank Vent Snow Damage," report to PWSRCAC. <https://www.pwsrcac.org/wp-content/uploads/Crude-Oil-Storage-Tank-Vent-Snow-Damage.pdf>

New Information about Impact of Pollutant Releases on Aquatic Ecosystem

BLM should consider new information related to the impact of pollutants released as part of normal operation on the aquatic ecosystem. Specifically, recent analysis of the VMT's Ballast Water Treatment Facility (BWTF) found that the BWTF is ineffective at removing oxygenated hydrocarbons from oily ballast water and stormwater influent (Harsha et al. 2024).

Oxygenated hydrocarbons are an emerging contaminant (not currently regulated) but are water-soluble and can be transported easily through aquatic ecosystems and within organisms. Once in the water column, they can diffuse large distances, impacting a greater area than just the effluent point. Oxygenated hydrocarbons are more chemically complex than their parent petroleum compounds and may be more toxic due to their high oxygen content and bioavailability. Though oxygenated polycyclic aromatic hydrocarbons (PAHs) are researched more extensively in air quality studies, their toxicity in aquatic systems is of more recent concern, and their impacts are still being investigated. This study found that oxygenated hydrocarbons became more oxygenated and more complex during treatment at the BWTF and estimated that 15 kg of oxygenated hydrocarbons are released per day in Port Valdez from the BWTF, though this value varies seasonally. This study also suggested that stormwater entering the BWTF contained hydrocarbons (with a petroleum signature) that were not detected with routine benzene, toluene, ethylbenzene, and xylene (BTEX) measurements. This hydrocarbon source is a concern because the most recent ADEC permit (which is still pending as noted above) allows for the release of untreated stormwater during periods of high precipitation and snow melt.

Requested BLM Actions

BLM should consider the ecosystem effects of a point source of oxygenated hydrocarbon pollutants into Port Valdez.

Key Supporting Information

Harsha, M. L., Verna, D. E., Salas-Ortiz, Y., Osborn, E., Valle, E. T., Goranov, A. I., Hatcher, P. G., Aguilar-Islas, A. M., Tomco, P. L., & Podgorski, D. C. (2024). "Examining the effectiveness of oiled ballast water treatment processes: Insights into hydrocarbon oxidation product

formation and environmental implications." Environmental Science: Advances, 3(12), 1746-1759. <https://doi.org/10.1039/d4va00187g>

Comment on Assurances for Future Decommissioning of VMT

While a new TAPS ROW approval would mean up to 30 more years of TAPS operations, ultimately in the future the VMT (and other TAPS infrastructure) will need to be decommissioned according to dismantlement, removal, and restoration (DR&R) obligations stipulated in lease agreements. The 2002 FEIS describes the physical process at the VMT: "At the Valdez Marine Terminal, all aboveground piping, tanks, and concrete containment walls would be removed. All power generation and vapor control facilities, including incinerators, would be removed. The BWTF, including concrete tanks and aboveground structures, would be removed. Finally, all buildings and cable trays would be removed. Berths, berth piping, and mooring dolphins would be removed at the mudline."

The 2022 FEIS (Executive Summary) states that, "The BLM believes that the legal commitments in regulations and the guarantees provided by the TAPS Owners constitute adequate assurances to ensure full-cost recovery from the TAPS Owners for the dismantlement, removal, and restoration of the ROW upon the termination of TAPS. In addition, prior to renewing the ROW the Secretary, pursuant to the Mineral Leasing Act (Section 28(j), 30 USC § 185(j)), will determine whether the TAPS Owners 'have the technical and financial capability to . . . terminate the project.' Renewal cannot proceed without such a determination." At that time, BLM determined that requiring an escrow account to be established to cover DR&R would not result in changed environmental impacts from the baseline (no escrow account).

Significant changes in ownership have occurred since the last TAPS ROW renewal. BLM should at minimum ensure that the review is conducted regarding the technical and financial capability of TAPS owners to meet fully the DR&R stipulations of the federal and state leases and the anticipated reliability of this finding over the next 30 years.

Because uncertainties inherent in long-range forecasting make it difficult, if not impossible, to forecast the amounts necessary for DR&R in another 30 years, this should include review of petroleum pipeline DR&R collection schedules to ensure that collection levels are appropriate to their particular task. BLM should also reconsider whether an escrow account, as described in 2002, may change the outcome and thus warrant examination.

Requested BLM Actions

- Evaluate the technical and financial capability of current TAPS owners to fulfill all DR&R lease obligations and associated assurances.

- Identify unresolved technical or financial issues related to DR&R obligations, if any, that should be preserved in the NEPA/ROW record.
- Determine the merits of an escrow account for TAPS DR&R and its potential impact on environmental outcomes (assurances regarding the full conduct of DR&R).

Key Supporting Information

Bureau of Land Management (BLM), 2002, "Final Environmental Impact Statement (FEIS): Renewal of the Federal Grant for the Trans-Alaska Pipeline System Right-of-Way. BLM/AK/PT-03/005-2880-990. <https://www.arlis.org/docs/vol1/BLM/2002/51557502/index.html>

Fineberg, Richard, 2004, "Trans-Alaska Pipeline System Dismantling, Removal and Restoration (DR&R): Background Report and Recommendations," report to PWSRCAC. <https://www.pwsrcac.org/document/trans-alaska-pipeline-system-dismantling-removal-and-restoration-drr-background-report-and-recommendations/>